Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Home health care: percentage of home health stays in which patients used the emergency department but were not admitted to the hospital during the 60 days following the start of the home health stay.

Source(s)

Home Health Quality Measures â€" Outcomes. Baltimore (MD): Centers for Medicare & Medicaid Services (CMS); 2016 Mar. 10 p.

Measure Domain

Primary Measure Domain

Related Health Care Delivery Measures: Use of Services

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of home health stays in which patients used the emergency department but were not admitted to the hospital during the 60 days following the start of the home health stay.

Rationale

Within home health care, 10.2% of patients utilize the emergency department (ED), but are not hospitalized during the first 60 days of home health.

There is evidence that there are interventions that can be effective in reducing ED use. While there are many single studies reporting the effectiveness of telehealth, we are reporting here from selected systematic reviews that are most relevant to home health care patients. Specifically, for patients with heart failure, in a systematic review, telehealth has been found to overall reduce ED visits (although the results were not consistent with nine studies finding a beneficial effect, one study finding no difference

and one study finding more visits in the telehealth group) (Polisena et al., 2010). In a systematic review of chronic obstructive pulmonary disease (COPD) patients, there was evidence that telephone support (using regular telephonic care) reduced ED visits in one study. None of the other studies reported on ED use for patients with COPD (Bourbeau et al., 2003). For patients with diabetes, in a systematic review, the results are mixed with two studies showing a beneficial effect with telehealth and one study finding more ED visits among those in the telemonitoring group (Polisena et al., 2009).

Benefits of this measure include opportunities for identification of inappropriately high ED use and encouragement of agencies to implement interventions that reduce inappropriate ED use, leading to improvement in the health of Medicare beneficiaries and lowering Medicare costs.

Evidence for Rationale

Bourbeau J, Julien M, Maltais F, Rouleau M, BeauprÃ© A, BÃ©gin R, Renzi P, Nault D, Borycki E, Schwartzman K, Singh R, Collet JP, Chronic Obstructive Pulmonary Disease axis of the Respiratory Network Fonds de la Recherche en SantÃ©. Reduction of hospital utilization in patients with chronic obstructive pulmonary disease: a disease-specific self-management intervention. Arch Intern Med. 2003 Mar 10;163(5):585-91. PubMed

National Quality Forum (NQF). Emergency department use without hospitalization. Washington (DC): National Quality Forum (NQF); 2012 Mar 30. 36 p.

Polisena J, Tran K, Cimon K, Hutton B, McGill S, Palmer K, Scott RE. Home telemonitoring for congestive heart failure: a systematic review and meta-analysis. J Telemed Telecare. 2010;16(2):68-76. PubMed

Polisena J, Tran K, Cimon K, Hutton B, McGill S, Palmer K. Home telehealth for diabetes management: a systematic review and meta-analysis. Diabetes Obes Metab. 2009 Oct;11(10):913-30. PubMed

Primary Health Components

Home health; emergency department (ED) use without hospitalization

Denominator Description

Number of home health stays that begin during the 12-month observation period (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of home health stays for patients who have a Medicare claim for outpatient emergency department use and no claims for acute care hospitalization in the 60 days following the start of the home health stay (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

A systematic review of the clinical research literature (e.g., Cochrane Review)

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

Reliability Testing
All agencies with at least 20 home health stays beginning between 1/1/2010 and 12/31/2010 were included in the reliability analysis, because only information for agencies with at least 20 episodes is publicly reported. Of the 10,125 agencies with any home health stays in 2010, 8,567 agencies met the threshold for the "Emergency Department Use without Hospitalization" measure. For the national analysis, a beta-binomial distribution was fitted using all agencies. For the hospital referral region (HRR) analysis, separate beta-binomials were fitted for each of 306 HRRs, using only those agencies in the HRR. It is worth noting that even the agencies that are in HRRs with only two agencies have high reliability scores, because these small HRR agencies tend to service many home health patients relative to the rest of the country.

Reliability analysis of this measure follows the beta-binomial method described in "The Reliability of Provider Profiling: A Tutorial" by John L. Adams.

Testing Results
The distribution of national reliability scores (percent of variance due to the difference in measure score among providers at the national level) shows that the majority of agencies have a reliability score greater than 0.818, implying that their performance can likely be distinguished from other agencies (i.e., performance on this measure is unlikely to be due to measurement error or insufficient sample size, but is instead due to true differences between the agency and other agencies as it substantially exceeds within agency variation).

The distribution of HRR reliability scores (percent of variance due to the difference in measure score among providers at the HRR level) for this measure also shows that at least 50% of agencies have a reliability score greater than 0.709, suggesting that between agency variation substantially exceeds within agency variation even at the HRR level.

Validity Testing
Centers for Medicare & Medicaid Services (CMS) chose to respecify the "Emergency Department Use without Hospitalization" measure with Medicare claims data to enhance the validity and reliability of this measure. The measure population is limited to fee-for-service (FFS) Medicare beneficiaries, ensuring that Medicare claims are filed for emergency department services the beneficiary receives. The measure numerator is a broad measure of utilization (emergency department use) that can be cleanly identified using claims data. Because claims form the basis of Medicare payments, CMS invests significant resources in validating claims submissions prior to payment.

As CMS audits a sample of claims for Part B services (including outpatient emergency department visits) as part of annual payment error calculations, additional validity testing of measure elements has not been conducted. The annual payment error calculation for 2010 involved a sample of Medicare claims that were then compared to medical records and included 31,766 claims Part B (and an additional 2,454 claims for acute inpatient hospitalizations).

Testing Results
Of the sampled Part B claims, the patient record could not be found for 801 (or 0.2%) claims. It is possible that an extremely small fraction of claims represent care that did not occur, but this problem is

clearly not widespread. 12.9% had some type of payment error with the bulk of these errors coming from insufficient documentation. It is possible that in some of these cases, reviewers could not determine that emergency department services were utilized or were medically necessary. While the Comprehensive Error Rate Testing (CERT) report calculates the fraction of claims impacted by payment errors only for broad categories of payments and not by clinical setting, it does project the amount of improper payments by both type of error and clinical setting. The report estimates that $1.97 billion of improper payments to hospital outpatient departments resulted from insufficient documentation and $2.64 billion in payment errors resulted from any cause. For comparison, in 2009, total Medicare spending on hospital outpatient services was $34 billion. Thus errors impact only 7.7% of hospital outpatient payments.

Evidence for Extent of Measure Testing

Adams JL. The reliability of provider profiling: a tutorial. Santa Monica (CA): RAND Corporation; 2009. 33 p.

National Quality Forum (NQF). Emergency department use without hospitalization. Washington (DC): National Quality Forum (NQF); 2012 Mar 30. 36 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Home Care

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Does not apply to this measure

Target Population Age

Unspecified

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Priority

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Not within an IOM Care Need

IOM Domain

Not within an IOM Domain

Data Collection for the Measure

Case Finding Period

12-month observation period

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Encounter

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Number of home health stays that begin during the 12-month observation period. A home health stay is a sequence of home health payment episodes separated from other home health payment episodes by at least 60 days.

Note: Examining claims from the 120 days before the beginning of the 12-month observation period is necessary to ensure that stays beginning during the observation period are in fact separated from previous home health claims by at least 60 days.

Exclusions

- Home health stays for patients who are not continuously enrolled in fee-for-service (FFS) Medicare during the numerator window (60 days following the start of the home health stay) or until death
- Home health stays that begin with a Low Utilization Payment Adjustment (LUPA) claim
- Home health stays in which the patient receives service from multiple agencies during the first 60 days
- Home health stays for patients who are not continuously enrolled in FFS Medicare for the 6 months prior the start of the home health stay

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of home health stays for patients who have a Medicare claim for outpatient emergency department use and no claims for acute care hospitalization in the 60 days following the start of the home health stay

Note: The 60 day time window is calculated by adding 60 days to the "from" date in the first home health claim in the series of home health claims that comprise the home health stay. If the patient has any Medicare outpatient claims with any emergency room (ER) revenue center codes (0450-0459, 0981) during the 60 day window AND if the patient has no Medicare inpatient claims for an unplanned admission to an acute care hospital (identified by the Centers for Medicare & Medicaid Services [CMS] Certification Number on the inpatient [IP] claim ending in 0001-0879, 0800-0899, or 1300-1399) during the 60 day window, then the stay is included in the measure numerator.

Exclusions

Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Type of Health State

Proxy for Outcome

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

The utilization measures are risk adjusted using a predictive model developed specifically for the measures which takes into account differences in patient health status, as measured by the patient's previous Medicare claims.

To account for beneficiary characteristics that may affect the risk of emergency department use or acute care hospitalization, the risk adjustment model uses potential risk factors that fall into five categories:

Prior care setting;
Health status;
Demographics;
Enrollment status; and
Interactions terms.

Details of the model are available for download at Centers for Medicare & Medicaid Services (CMS) Web site .

Standard of Comparison

not defined yet

Identifying Information

Original Title

Emergency department use without hospitalization.

Measure Collection Name

Outcome and Assessment Information Set (OASIS)

Measure Set Name

Outcome-Based Quality Improvement (OBQI) Measures

Submitter

Centers for Medicare & Medicaid Services - Federal Government Agency [U.S.]

Developer

Acumen LLC, under contract to Centers for Medicare and Medicaid Services - Nonprofit Research Organization

Centers for Medicare & Medicaid Services - Federal Government Agency [U.S.]

Funding Source(s)

Centers for Medicare & Medicaid Services

Composition of the Group that Developed the Measure

Unspecified

Financial Disclosures/Other Potential Conflicts of Interest

None to report

Endorser

National Quality Forum - None

NQF Number

not defined yet

Date of Endorsement

2013 Oct 30

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2016 Mar

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

Please note: This measure has been updated. The National Quality Measures Clearinghouse is working to update this summary.

Measure Availability

Source available from the Centers for Medicare & Medicaid Services (CMS) Web site .

For more information, contact CMS at 7500 Security Boulevard, Baltimore, MD 21244; Web site: www.cms.gov .

Companion Documents

The following is available:

> Home health claims-based utilization measures: risk adjustment methodology. Burlingame (CA): Acumen, LLC; 2012 Aug. 20 p. This document is available from the Centers for Medicare & Medicaid (CMS) Web site .

NQMC Status

This NQMC summary was completed by ECRI Institute on June 18, 2014. The information was verified by the measure developer on August 22, 2014. The information was reaffirmed by the measure developer on April 7, 2016.

Copyright Statement

Production

Source(s)

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